

## PATENT COOPERATION TREATY

28 JAN 2005

From the:  
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

To:

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PCT

WRITTEN OPINION  
(PCT Rule 66)

74 MAR 2004

Date of mailing  
(day/month/year)

24 MAR 2004

Applicant's or agent's file reference  
109248

REPLY DUE

within TWO MONTHS  
from the above date of mailing

International Application No.

PCT/AU2003/000953

International Filing Date (day/month/year)

29 July 2003

Priority Date (day/month/year)

29 July 2002

International Patent Classification (IPC) or both national classification and IPC

Int. Cl. <sup>7</sup> F04B 43/10, 43/113

Applicant

COMBINED RESOURCE ENGINEERING PTY LTD et al

ENTERED

24 MAR 2004

1. This written opinion is the **first** drawn by this International Preliminary Examining Authority.
2. This opinion contains indications relating to the following items:
- I ☒ Basis of the opinion
  - II ☐ Priority
  - III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
  - IV ☐ Lack of unity of invention
  - V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability, citations and explanations supporting such statement
  - VI ☐ Certain documents cited
  - VII ☐ Certain defects in the international application
  - VIII ☒ Certain observations on the international application
3. The **FINAL DATE** by which the international preliminary examination report must be established according to Rule 69.2 is:  
29 November 2004
4. The applicant is hereby invited to reply to this opinion.

**When?** See the Reply Due date indicated above. However, the Australian Patent Office will not establish the Report before the earlier of (i) a response being filed, or (ii) one month before the **Final Date** by which the international preliminary examination report must be established. The Report will take into account any response (including amendments) filed before the Report is established.

If no response is filed by 1 month before the **Final Date**, the international preliminary examination report will be established on the basis of this opinion.

Applicants wishing to have the benefit of a further opinion (if needed) before the report is established should ensure that a response is filed at least 3 months before the **Final Date** by which the international preliminary examination report must be established.

**How?** By submitting a written reply, accompanied, where appropriate, by amendments, according to Rule 66.3.  
For the form and the language of the amendments, see Rules 66.8 and 66.9.

**Also** For an additional opportunity to submit amendments, see Rule 66.4.  
For the examiner's obligation to consider amendments and/or arguments, see Rule 66.4bis.  
For an informal communication with the examiner, see Rule 66.6.

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**I Basis of the opinion****1. With regard to the elements of the international application:\***

- ☒ the international application as originally filed.
- ☐ the description, pages , as originally filed,  
pages , filed with the demand,  
pages , received on with the letter of
- ☐ the claims, pages , as originally filed,  
pages , as amended under Article 19,  
pages , filed with the demand,  
pages , received on with the letter of
- ☐ the drawings, pages , as originally filed,  
pages , filed with the demand,  
pages , received on with the letter of
- ☐ the sequence listing part of the description:  
pages , as originally filed  
pages , filed with the demand  
pages , received on with the letter of

**2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.**

These elements were available or furnished to this Authority in the following language which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

**3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the written opinion was drawn on the basis of the sequence listing:**

- ☐ contained in the international application in printed form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

**4. ☐ The amendments have resulted in the cancellation of:**

- ☐ the description, pages
- ☐ the claims, Nos.
- ☐ the drawings, sheets/fig.

**5. ☐ This opinion has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

\* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this opinion as "originally filed"

**V. Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

**I. Statement**

Novelty (N)	Claims 2,3,5-37,39-45,49	YES
	Claims 1,4,38,46-48,50	NO
Inventive step (IS)	Claims 3,25,26,34,37,44	YES
	Claims 1,2,4-24,27-33,35,36,38-43,45-50	NO
Industrial applicability (IA)	Claims 1-50	YES
	Claims	NO

**2. Citations and explanations**

D1) GB 2195149	Claims 1,4,48
D2) WO 82/01738	Claims 1,4,48
D3) JP 11117872	Claims 38,46,50
D4) US 4543044	Claims 46,47,50
D5) US 5114319	Claims 46,47,50
D6) US 6345962	
D7) US 4257751	

**NOVELTY**

Each of citations D1-D5 discloses all of the features of the claims identified alongside.

For example D1 teaches a pump having a rigid outer casing 2, a flexible tube structure 4 accommodated in the casing, the tube structure being movable between laterally expanded and collapsed conditions to provide discharge and intake strokes, the region between the casing and the tube defining an actuating region, the pumping chamber undergoing a discharge stroke upon collapsing of the tube in response to action of actuating fluid in the actuating region. Although D1 or D2 do not explicitly teach that the tube structure is substantially inelastic, the fact that vacuum is required to laterally expand the tube (see page 1, lines 125-130 in D1) is indicative of the fact that the tube is inelastic. In D2 this is further evidenced by the shape of the diaphragm 20 in its relaxed condition in the figures.

Similarly D3-D5 teach a pumping system having two pumps which are sequentially operated to expel an uninterrupted supply of fluid.

**INVENTIVE STEP**

Claims 1,4,38,46-48,50: As above

*(Continued) last page*

**VIII. Certain observations on the international application**

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

1. Claim 38 lacks clarity because there is no clear antecedent for "the respective tube structure".

**Supplemental Box**

(To be used when the space in any of the preceding boxes is not sufficient)

**Continuation of V.2**

Claims 2,8,9,35,36,40: citation D6 teaches a pump wherein one end of the tube structure is closed and the other end acts as the intake and discharge port. It would be obvious to a skilled addressee to combine the teaching of this document with that of either one of D1 or D2 and thereby arrive at the claimed invention. These claims therefore lack an inventive step.

Claims 5-7: The features added by these claims are disclosed in D7 and it would be obvious to combine this document with D1 or D2 and thereby arrive at the invention defined in these claims.

Claims 10-16,24,33,39,41: The features added by these claims are considered common general knowledge in the art and are therefore not inventive.

Claims 17-23,27-32,42,49,50: The features added by these claims are disclosed in D4 and it would be obvious to combine this document with D1 or D2 or D6 and thereby arrive at the invention defined in these claims.

Claim 43,45: Citation D6 teaches a fluid operated pump in which the tube structure is closed at one end and the other end communicates with a port through which pumped fluid can enter into and discharge from the pumping chamber. However it does not explicitly disclose that the closed end is in an elevated position in relation to the other end. However it is considered that it would be obvious to a skilled addressee that this configuration can be used with the teachings of D6 and would thereby arrive at the claimed invention in a non-inventive manner. These claims therefore lack an inventive step.

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